a4

heater is then adjusted so that it is lower than the softening point of the deposited tube. In this state, the circular heater is upwardly and downwardly moved at a low speed to heat the deposited tube. The chlorine gas injector supplies chlorine gas to the deposited tube through the lower support member of the lathe in order to remove moisture existing in the deposited tube. At the same time, the vacuum exhaust value is opened to remove contaminants, including moisture, from the interior of the deposited tube (Step 36).

IN THE CLAIMS

Please delete claims 1-8 and 14-17 without prejudice and disclaimer, amend claims 9 through 13, 18, 22, 24 and 25, and add new claims 26 through 33, to read as follows:

a5

9. (Amended) A method for manufacturing an optical fiber preform, comprising the steps of:

depositing a clad layer and a core layer on an inner surface of a preform tube, thereby forming a deposited tube;

shrinking one end of the deposited tube, thereby sealing the one end of the deposited tube;

arranging the deposited tube in such a fashion that it extends vertically through a circular heater;

moving the circular heater to said one end of the deposited tube, and then adjusting a heating

temperature of the circular heater to be not lower than a softening point of the deposited tube; and

shrinking and closing the deposited tube by heating the deposited tube while moving the circular heater at a desired speed.

a5

10.(Amended) The method according to claim 9, further comprising the step of:

after the arranging step, removing a contaminant existing in an interior of the deposited tube.

11.(Amended) The method according to claim 9, wherein the shrinking and closing step is carried out under the condition in which the deposited tube rotates around its cylindrical axis, and an interior of the deposited tube is maintained at a negative pressure.

12.(Amended) The method according to claim 9, wherein the circular heater is a furnace, and inert gas is supplied to the furnace to prevent an oxidation of the furnace at a heat generating region.

13.(Amended) The method according to claim 9, wherein the shrinking and closing step further comprises the step of removing a moisture in an interior of the deposited tube.

---

a6

18.(amended) A method for manufacturing an optical fiber preform, comprising the steps of:

preparing a deposited tube by depositing a clad layer and a core layer on an inner surface of a horizontally arranged preform tube;

sealing one end of the deposited tube;

attaching a rod to said one end of the deposited tube;

a4

arranging the rod-joined deposited tube vertically and arranging a circular heater around the tube;

removing a contaminant from an interior of the deposited tube;

placing the circular heater above said one end of the deposited tube and adjusting a temperature of the circular heater to a temperature not lower than a softening point of the deposited tube and maintaining this temperature until the temperature is stabilized;

applying negative pressure to the interior of the deposited tube using a vacuum pump; and

shrinking the deposited tube while rotating the deposited tube and moving the circular heater from said one end to an unsealed end of the deposited tube simultaneously with the applying step.

a7

22.(Amended) The method of claim 18, wherein the circular heater comprises a furnace.

a8

24.(Amended) The method of claim 18, wherein the removing step further comprises the steps of:

moving the circular heater to the one end of the deposited tube, and then adjusting the heating temperature of the circular heater to be lower than a softening point of the deposited tube; and

heating the deposited tube while moving the circular heater at a desired speed, thereby exhausting contaminants existing in the interior of the deposited tube.

25.(Amended) The method of claim 18, said step of shrinking the circular heater further comprising:

injecting chlorine gas into the deposited tube.

a9

-26. A method for manufacturing an optical fiber preform, comprising the steps of:

depositing a clad layer and a core layer on an inner surface of a preform tube in a horizontal lathe, thereby forming a deposited tube;

shrinking one end of the deposited tube, thereby sealing the one end of the deposited tube;

attaching a rod to said one end of the deposited tube;

separating the deposited tube attached to said rod from said horizontal lathe;

mounting the deposited tube attached to said rod in a vertical lathe in such a fashion that it extends vertically through a circular heater;

placing the circular heater around said one end of the deposited tube;

setting a heating temperature of the circular heater to a first heating temperature which is not lower than the softening point of the deposited tube;

heating the deposited tube while moving the circular heater with said first heating temperature from said one end of the deposited tube to an unsealed end of the deposited tube at a desired speed while applying negative pressure to a hollow of the deposited tube;

moving the circular heater from said unsealed end to said one end of the deposited tube;

setting a heating temperature of the circular heater to a second heating temperature which is lower than the softening point of the deposited tube;

maintaining said temperature until said temperature is stabilized; and

shrinking the deposited tube by moving the circular heater with said second heating temperature from said one end to said unsealed end of the deposited tube at a desired speed while applying negative pressure to said hollow of the deposited tube.

--27. The method according to claim 26, wherein the desired speed in the heating step is in the range of 20 to 40 mm/min.

--28. The method according to claim 26, further comprising the step of removing moisture generated in the interior of the deposited tube due to heat of the circular heater.

--29. The method according to claim 28, wherein the step of removing moisture further comprises the step of supplying chlorine gas to said hollow of the deposited tube.

--30. The method according to claim 26, further comprising the step of rotating the deposited tube about its cylindrical axis simultaneously with the step of shrinking.

--31. The method according to claim 26, further comprising the step of:

repeating the step of shrinking.

--32. The method according to claim 10, wherein the step of removing further comprises the steps of:

placing the circular heater to the one end of the deposited tube, and then adjusting the heating temperature of the circular heater to be lower than the softening point of the deposited tube; and

heating the deposited tube while moving the circular heater at a desired speed, thereby exhausting contaminants existing in the interior of the deposited tube.

a 9

--33. The method according to claim 13, wherein the step of removing a moisture further comprises the step of supplying chlorine gas to the interior of the deposited tube.